

(FILE 'HOME' ENTERED AT 15:26:11 ON 29 NOV 2006)

FILE 'CAPLUS, MEDLINE, EMBASE, BIOSIS, LIFESCI' ENTERED AT 15:26:29 ON 29  
NOV 2006

L1	18 S (CDMP-1 OR GDF5) AND (PERIOSTEUM OR BONE MARROW OR SYNOVIAL)
L2	5 S L1 AND PY<=1999
L3	1 DUP REM L2 (4 DUPLICATES REMOVED)

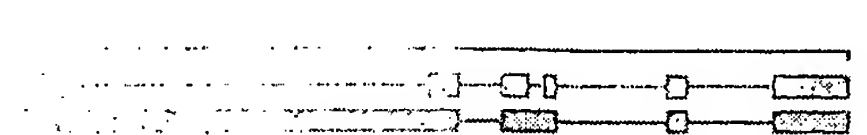
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	<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L15	l1 and L14	2
<input type="checkbox"/>	L14	424/93.1.ccls.	1109
<input type="checkbox"/>	L13	l1 and L12	11
<input type="checkbox"/>	L12	435/325.ccls.	21368
<input type="checkbox"/>	L11	CDMP-1 with (precursor or stem)	1
<input type="checkbox"/>	L10	CDMP-1 with (skeletal or chondrocyte or connective)	17
<input type="checkbox"/>	L9	CDMP-1 with (periosteum or bone marrow or synovial) with stem	0
<input type="checkbox"/>	L8	CDMP-1 near (periosteum or bone marrow or synovial) near stem	0
<input type="checkbox"/>	L7	l4 and (skeletal or chondrocyte or connective)	71
<input type="checkbox"/>	L6	L5 and (skeletal or chondrocyte or connective)	56
<input type="checkbox"/>	L5	l3 and (periosteum or bone marrow or synovial)	60
<input type="checkbox"/>	L4	l2 and (periosteum or bone marrow or synovial)	78
<input type="checkbox"/>	L3	stem and L1	76
<input type="checkbox"/>	L2	precursor and L1	89
<input type="checkbox"/>	L1	CDMP-1	111

END OF SEARCH HISTORY



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Search  for

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All: 1 Current Only: 1 Genes Genomes: 1 SNP GeneView: 1

## 1: Gdf5 growth differentiation factor 5 [ *Mus musculus* ]

GeneID: 14563

updated 23-Nov-2006

### Summary



**Official Symbol** Gdf5

provided by MGI

**Official Full Name** growth differentiation factor 5

provided by MGI

**Primary source** MGI:95688

**Gene type** protein coding

**RefSeq status** Provisional

**Organism** *Mus musculus*

**Lineage** Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Muroidea; Muridae; Murinae; Mus

**Also known as** bp; CDMP-1

Entrez Gene  
Home

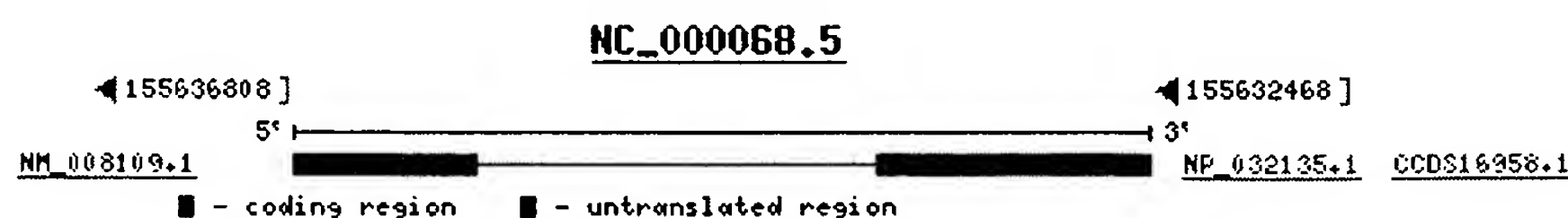
### Table Of Contents

Summary  
Genomic regions, transcripts...  
Genomic context  
Bibliography  
Interactions  
Alleles  
General gene information  
General protein information  
Reference Sequences  
Related Sequences  
Additional Links

### Genomic regions, transcripts, and products



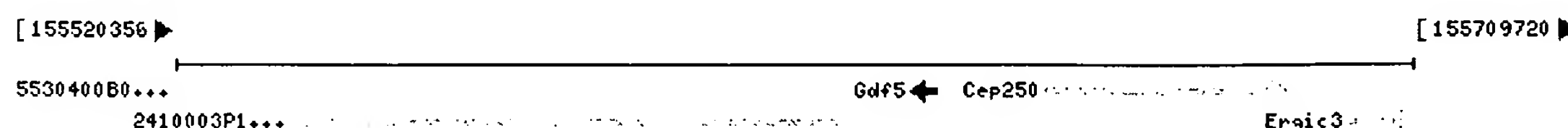
(minus strand) Go to [reference sequence details](#)



### Genomic context



**chromosome:** 2; **Locations:** 2 H1; 2 90.0 cM



### Bibliography



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## GeneRIFs: Gene References Into Function

[What's a GeneRIF?](#)

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1. GDF5 has a role in growth of developing joints, including early joint interzones, adult articular cartilage, and the joint capsule
2. Results describe 2 mutations in growth and differentiation factor 5 (GDF5) that alter receptor-binding affinities.
3. Deficiency in knockout mice affects biomechanical behavior and ultrastructure of mouse skin.
4. Excessive apoptosis in the absence of GDF5 results in developmental failure of the phalanges.
5. The fact that for both gdf5 family members the type I and type II receptor-binding sites interact suggests that the sites on the receptors may interact as well, suggesting how preformed receptor heterodimers may form.
6. GDF-5 synergistically enhances de novo bone formation capability of bone marrow mesenchymal cells in hyaluronan composites in rats.
7. concordance between the mRNA expression profiles of GDF5 and the gap junction gene, Cx43, in the mouse embryonic limb, spine, and heart, consistent with coordinated functions for these gene products during

**Submit:** [New GeneRIF](#) [Correction](#)

## Alleles



The following allele types are documented at Mouse Genome Informatics ([MGI](#))

- Spontaneous [1 citation](#)

## Interactions



### Description .....

Product	Interactant	Other Gene	Complex	Source	Pubs
GDF5 interacts Chl2.					
NP_032135.1	NP_598470.2	Chrdl2		BIND	PubMed
Prss11 interacts with Gdf5.					
NP_032135.1	NP_062510.1	Htra1		BIND	PubMed

## General gene information



### Markers

#### Gdf5(e-PCR)

Links: [UniSTS:143190](#)

Alternate name: MGI:1277834

#### U08337(e-PCR)

Links: [UniSTS:159059](#)

Alternate names: 300; ND

#### REN57714(e-PCR)

Links: [UniSTS:382514](#)

#### REN57716(e-PCR)

Links: [UniSTS:382516](#)

#### REN57730(e-PCR)

Links: [UniSTS:382530](#)

#### REN57733(e-PCR)

Links: [UniSTS:382533](#)

#### NoName(e-PCR)

Links: [UniSTS:461894](#)

Alternate name: MGI:3047584

#### NoName(e-PCR)

### Pathways

KEGG pathway: Cytokine-cytokine receptor interaction

[04060](#)

KEGG pathway: TGF-beta signaling pathway

[04350](#)

### Homology

Human

[Map Viewer](#)

### GeneOntology

Provided by MGI

#### Function

[cytokine activity](#)

[growth factor activity](#)

[protein binding](#)

#### Evidence

IEA

IEA

IPI [Pubmed](#)

#### Process

[embryonic limb morphogenesis](#)

[growth](#)

[regulation of apoptosis](#)

#### Evidence

IMP [Pubmed](#)

IEA

IMP [Pubmed](#)

Component	Evidence
<u>extracellular space</u>	RCA <u>Pubmed</u>

## General protein information



### Names

growth differentiation factor 5  
brachypodism  
cartilage-derived morphogenetic protein-1

## NCBI Reference Sequences (RefSeq)



### RefSeqs maintained independently of Annotated Genomes

These reference sequences exist independently of genome builds. [Explain](#)

### mRNA and Protein(s)

#### 1. NM\_008109.1→NP\_032135.1 growth differentiation factor 5

Source sequence(s) U08337

Consensus CDS CCDS16958.1

#### Conserved Domains (2) [summary](#)

<b>pfam00688</b>	TGFb_propeptide; TGF-beta propeptide
Location:164-349	
Blast Score:259	
<b>smart00204</b>	TGFB; Transforming growth factor-beta (TGF-beta) family; Family members are active as disulphide-linked homo- or heterodimers
Location:394-495	
Blast Score:449	

### RefSeqs of Annotated Genomes: Build 36.1

The following sections contain reference sequences that belong to a specific genome build. [Explain](#)

## Reference assembly (C57BL/6J)

### Genomic

#### 1. NC\_000068.5 Reference assembly (C57BL/6J)

Range 155636808..155632468, complement

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#### 2. NT\_039207

Range 96715328..96710988, complement

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## Alternate assembly (based on Celera)

### Genomic

#### 1. AC\_000024.1 Alternate assembly (based on Celera)

Range 161878603..161874290, complement

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#### 2. NW\_001030712

## Alternate assembly (based on MGSCv3)

### Genomic

#### 1. NW\_000179 Alternate assembly (based on MGSCv3)

**Range** 4484541..4480213, complement  
**Download** [GenBank](#) [FASTA](#)

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## Related Sequences



Nucleotide	Protein	Strain
Genomic <a href="#">AL845445.14</a> (116374..120714, complement)	None	
Genomic <a href="#">CQ848467.1</a>	<a href="#">CAH18057.1</a>	
mRNA <a href="#">AB259648.1</a>	<a href="#">BAF36558.1</a>	NC
mRNA <a href="#">AK041168.1</a>	<a href="#">BAC30847.1</a>	C57BL/6J
mRNA <a href="#">BC034546.1</a>	<a href="#">AAH34546.1</a>	FVB/N
mRNA <a href="#">U08337.1</a>	<a href="#">AAA18778.1</a>	CD-1

Protein Accession	Links
P43027	<a href="#">GenPept</a> <a href="#">UniProt</a>
Q8BRW9	<a href="#">GenPept</a> <a href="#">UniProt</a>

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## Additional Links



- Gene Expression Database (GXD) at MGI [MGI:95688](#)
- UniGene [Mm.4744](#)

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Nov 27 2006 08:22:28